

CLAIMS:

I claim:

1. A method for operating a computer system to respond to a domain name service query for a public address of a private network host, the method comprising the steps of:
 - 5 receiving the domain name service query from a requesting host for the public address of the private network host;
 - sending a request to a network address translator for the public address of the private network host;
- 10 receiving a reply from the network address translator containing the public address of the private network host; and
- sending the public address of the private network host to the requesting host.
2. The method of claim 1, wherein the public address is an Internet Protocol (IP) address.
- 15 3. The method of claim 1, further comprising the step of updating an address data structure in response to receiving the public address of the private network host.
4. The method of claim 3, wherein the reply from the network address translator includes a time period in which the public address of the private network host is valid; and the method further comprising the step of updating the address data structure in 20 response to the public address of the private network host not being valid.
5. The method of claim 4, wherein the time period specifies a time duration of network inactivity for the public address.
6. The method of claim 3, further comprising the steps of:
 - receiving a time-out message from the network address translator for the public address of the private network host; and
 - 25 updating the address data structure in response to receiving the time-out message.

7. The method of claim 1, wherein the request to the network address translator is in a Simple Network Management Protocol format.

~~8.~~ A method for operating a computer system to respond to a request for a public address of a private network host, the method comprising the steps of:

5 receiving the request for the public address of the private network host from a querying system;

dynamically assigning the public address for the private network host; and

sending the assigned public address for the private network host to the querying system.

10 9. The method of claim 8, wherein the public address is an Internet Protocol (IP) address.

10. The method of claim 8, wherein the computer system comprises a network address translator.

15 11. The method of claim 8, further including sending a time period in which the public address of the private network host is valid.

12. The method of claim 8, further comprising the step of sending a time-out message to the querying system for the assigned public address for the private network host.

13. The method of claim 8, wherein the public address request is received and the 20 public address is sent in a Simple Network Management Protocol format.

~~14.~~ A computer-readable medium having computer-executable instructions for performing steps for operating a computer system to respond to a domain name service query for a public address of a private network host, the steps comprising:

receiving the domain name service query from a requesting host for the ~~public~~ 25 address of the private network host;

sending a request to a network address translator for the ~~public~~ address of the

private network host;

receiving a reply from the network address translator containing the public address of the private network host; and

sending the public address of the private network host to the requesting host.

5 15. The computer-readable medium of claim 14, wherein the public address is an Internet Protocol (IP) address.

16. The computer-readable medium of claim 14, having further computer-executable instructions for performing the step of updating an address data structure in response to receiving the public address of the private network host.

10 17. The computer-readable medium of claim 16, wherein the reply from the network address translator includes a time period in which the public address of the private network host is valid; and having further computer-executable instructions for performing the step of updating the address data structure in response to the public address of the private network host not being valid.

15 18. The computer-readable medium of claim 17, wherein the time period specifies a time duration of network inactivity for the public address.

19. The computer-readable medium of claim 16, having further computer-executable instructions for performing the steps of:

20 receiving a time-out message from the network address translator for the public address of the private network host; and
updating the address data structure in response to receiving the time-out message.

20. The computer-readable medium of claim 14, wherein the request to the network address translator is in a Simple Network Management Protocol format.

25 21. A computer-readable medium having computer-executable instructions for performing steps for operating a computer system to respond to a request for a public address of a private network host, the steps comprising:

receiving the request for the public address of the private network host from a querying system;

dynamically assigning the public address for the private network host; and

sending the assigned public address for the private network host to the querying

5 system.

22. The computer-readable medium of claim 21, wherein the public address is an Internet Protocol (IP) address.

23. The computer-readable medium of claim 21, wherein the computer system comprises a network address translator.

10 24. The computer-readable medium of claim 21, having further computer-executable instructions for sending a time period in which the public address of the private network host is valid.

15 25. The computer-readable medium of claim 21, having further computer-executable instructions for performing the step of sending a time-out message to the querying system for the assigned public address for the private network host.

26. The computer-readable medium of claim 21, wherein the public address request is received and the public address is sent in a Simple Network Management Protocol format.

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